

SONY

3-754-877-21(1) AS

Integrated Stereo AV Amplifier

Operating Instructions

TA-AV521

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WARNING

OWNER'S RECORD

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. TA-AV521 Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

* The graphical symbols are on the rear enclosure.

Information

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the equipment with respect to the receiver
- Move the equipment away from the receiver
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

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Precautions

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On safety

- Operate the unit only on 120 V-AC, 60 Hz.
- Should any solid object or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On operation

Before making program source connections, be sure to turn the power switch off and unplug the unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

Unpacking

Choosing a Good Location

To prevent internal heat buildup in the unit, place the unit in a location with adequate air circulation.

Do not install the unit:

- near heat sources such as radiators or air ducts.
- in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Do not place anything on top of the cabinet.

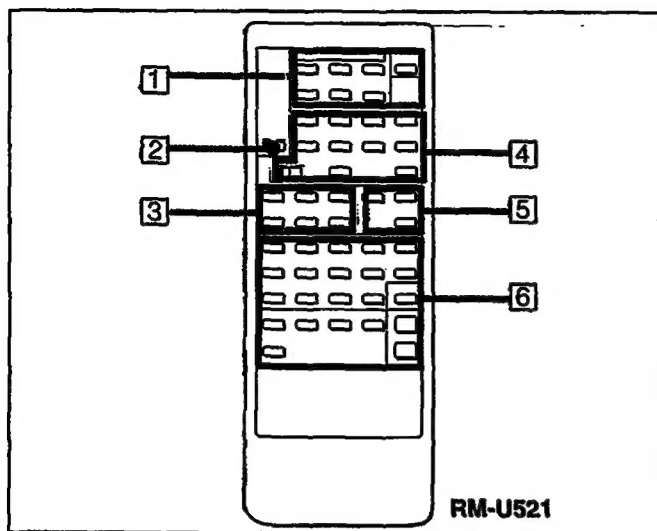
The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

Do not throw away the carton and packing material!

It will be an ideal container when transporting the unit for repair work, etc.

Remote Commander

The remote commander supplied with this unit can control the unit from a distance. The remote commander is divided into 6 sections according to the functions as shown below.



1 Power control block

SYSTEM OFF button: Turns off the power of the whole system: LDP, VTR, TV, and AUDIO.
LDP/VTR1/VTR2/VTR3/TV/AUDIO POWER buttons: Control the power of each unit.

2 MODE selector

Selects the function mode on the remote commander.
1: To select the functions indicated in light gray such as DECK, DAT, CD player and the SURROUND mode of amplifier.
2: To select the functions indicated in blue such as VTR, LDP (Laser disc player) and TV.

3 CDP/LDP control block

The combined CD/LD player can be controlled with LDP position.

▶: Play
⏏: Pause
■: Stop
D (disc) SKIP: Disc skip (for a CD player equipped with a multi-disc changer)
◀◀/▶▶: Manual search (only for LD player)
◀◀/▶▶: Locates a desired selection.

4 Tape deck/VCR control block

DECK/VTR selector

DECK A,B, and DAT: Selects Deck A, B or DAT deck.
VTR 1, 2, and 3: Set to the VTR 1, 2 or 3 according to your VCR setting.

1: Betamax VCRs
2: 8 mm VCRs
3: VHS VCRs

⏏: Pause
■: Stop
◀◀/▶▶: Fast winding
◀/▶: Play

● (REC): Recording

ANT (antenna) TV/VTR button: Selects the output signal from the antenna terminal on the VCR, either a TV signal or VCR programs.

VTR CH (channel) +/- buttons: Select channel on the VCR.

5 Tuner/TV block

SHIFT and TUNER PRESET/ TV CH (channel) +/- buttons: Select a preset station of the tuner or a channel of the TV.

6 Amplifier/TV block

TV/VIDEO button: Selects the input signal of the TV. (for TV)

Program number (1 to 0) and ENTER buttons: Select the channel. (for TV)

SURROUND mode selectors (for the amplifier)

ON/OFF: Turns on/off the surround mode.

MODE: Selects the surround mode.

T.(Test) TONE: Generates a pink noise signal that is sent in succession to each speaker.

DELAY: Adjust the delay time.

FUNCTION selectors: Select an input source of the amplifier. (for the amplifier)

REAR VOL +/- buttons: Control the volume of rear speakers (surround level).

CENTER VOL/TV VOL +/- buttons: Control the volume of center speaker (surround level) or TV.

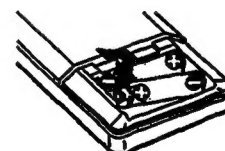
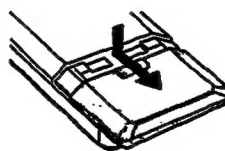
DBFB button: Turns on/off the DBFB (Dynamic Bass Feed Back). (for the amplifier)

MASTER VOL +/- buttons: Control the amplifier volume (for the amplifier).

Inserting the batteries into the remote commander

1 Open the cover.

2 Insert two size AA (R6) batteries with correct polarity.



Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the commander can no longer operate the unit. Replace both batteries with new ones.

To avoid battery leakage

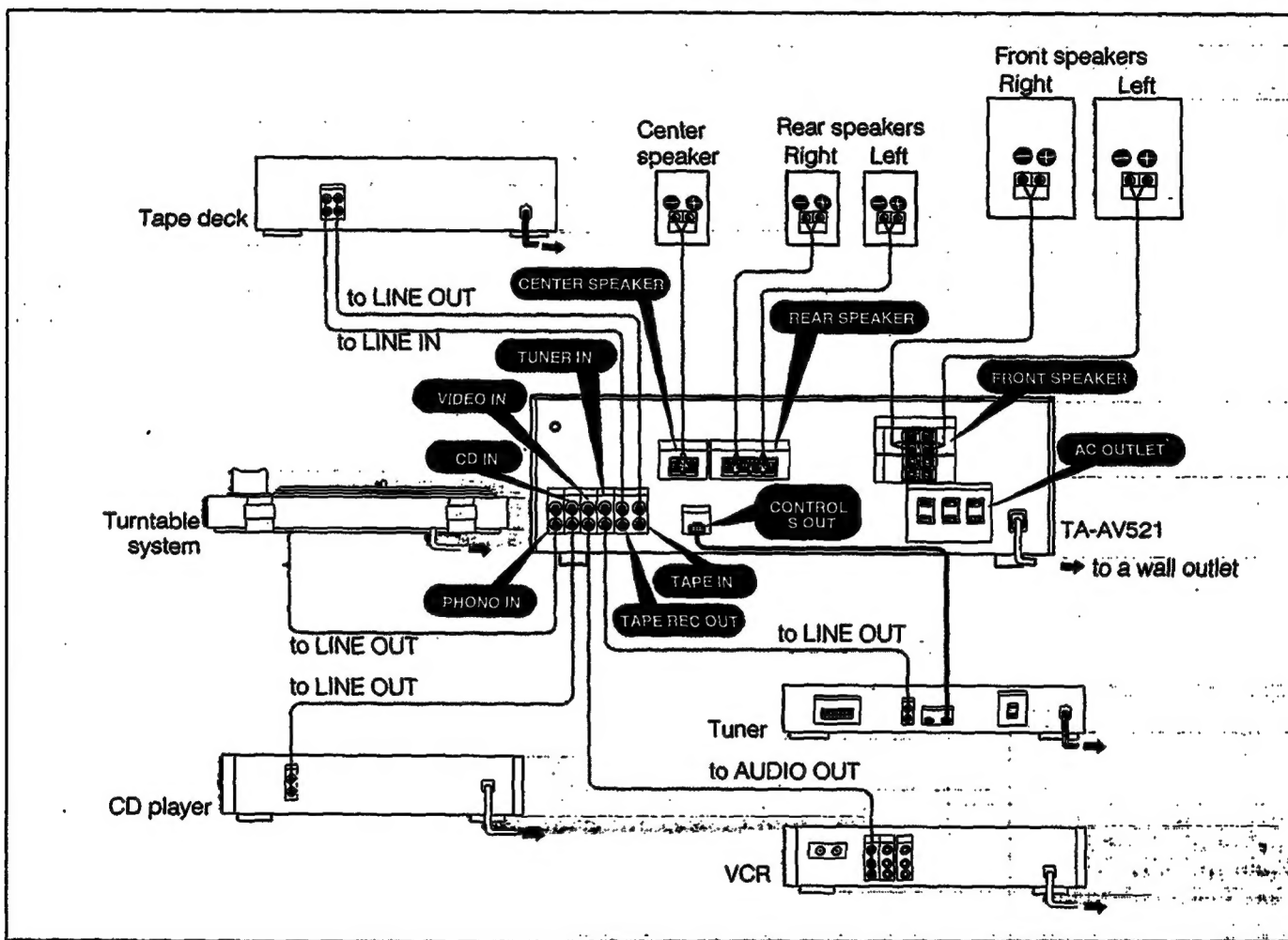
When the commander is not to be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Hooking Up the System

At first, this section describes about the connections with the other audio/video equipments and speakers. After that, it also shows about the remote control system and AC outlet.

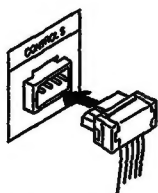
- Connect the AC power cord last. Make sure power is off.
- Jacks and plugs of the connection cord are color-coded as follows:
Red jacks and plugs: For the right channel of audio signals
White jacks and plugs: For the left channel of audio signals
- The cable connectors should be fully inserted into the jacks. Loose connections may cause hum and noise.

Connecting Audio Equipment



CONTROL S cord (not supplied)

Connect the CONTROL S IN jack of other Sony equipment with the CONTROL S cord for whole audio system remote control.



Push in until it clicks.



To disconnect.

AC OUTLETS (SWITCHED)

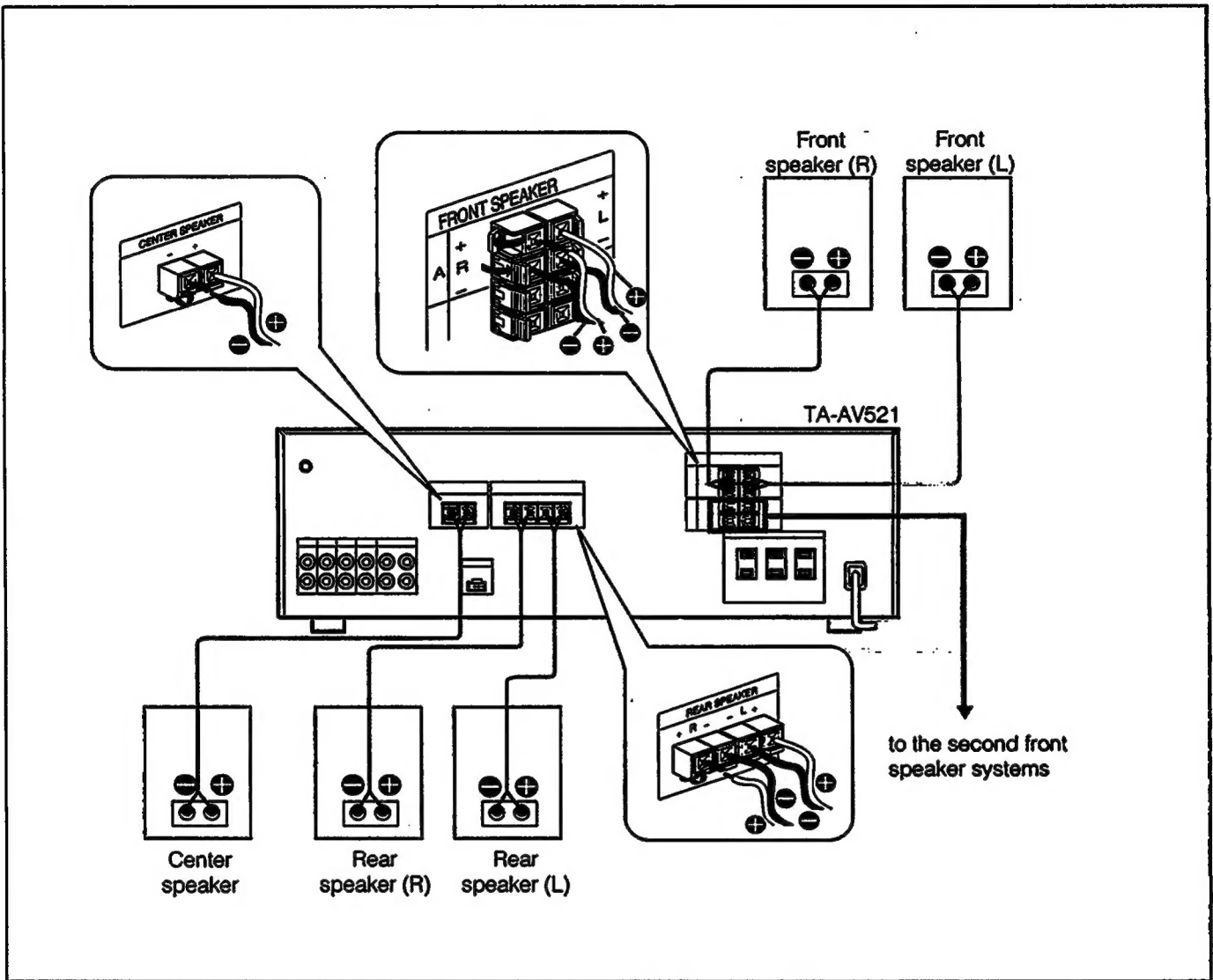
Use these to power audio component whose power consumption is less than the wattage indicated on the AC outlets. These outlets are controlled by the SYSTEM POWER switch on the front panel.

CAUTION

Do not connect any electrical home appliances such as an electric iron, fan, TV or other high wattage equipment to these AC outlets.

Hooking Up the System

Connecting Speakers



Front speakers

Connect the front speaker systems to the FRONT SPEAKER A or/and B terminals. They can be selected individually or simultaneously with the SPEAKERS selector.

Rear speakers

Connect the rear speaker systems to the REAR SPEAKER terminal for enjoying surround sound.

Center speaker

You can connect a center speaker to the CENTER SPEAKER terminal for enjoying surround sound. The sound such as a dialog comes from the center.

Note on speaker impedance and power capacity

This amplifier is designed to work best with speakers of nominal impedance from 8 to 16 ohms (Center speaker: from 4 to 16 ohms). Be sure to use a speaker system with adequate power handling capability.

Note

When connecting the speaker cord to the speaker terminal, make sure that the polarity (+ and -) of the speaker cord is correct. If the polarity is reversed at either speaker, the sound will be distorted and will lack bass.

Getting Ready to Enjoy Surround Sound

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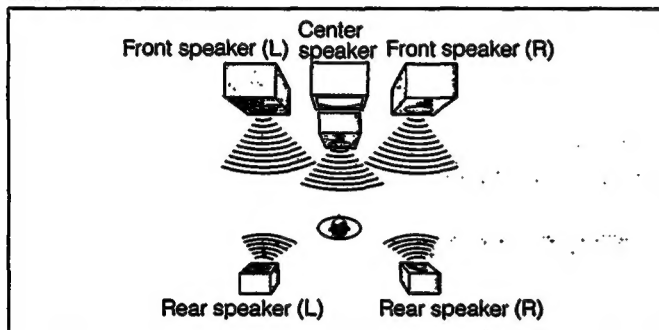
This section describes about selecting the speaker configuration for the surround system and then adjusting the speaker volume and the delay time of the rear speakers so that you can enjoy the Dolby surround sound.

Positioning the Speakers

Where you place the speakers depends on the size and acoustics of the listening room.

The figure below are just examples.

We recommend that you experiment to find the speaker direction or location in which the most effective acoustics can be obtained.



Placement of Speakers and Selecting the PRO LOGIC MODE

The Dolby* Pro Logic Surround Decoder has the same functions for playback, such as movie theaters and gives a theater-like experience in your listening room, naturally reproducing the audio sound field.

The TA-AV521 incorporates a decoder which reproduces the specially encoded surround sound of Dolby surround video programs.

In the SURROUND mode, a speaker operation mode can be selected to match your speaker system.

A center speaker is required in addition to the basic four speakers.


The setting on which the vocal image will be located on the center of the TV screen is better affect to surround effect.

In the SURROUND mode, select the speaker operation mode according to your speaker configuration by pressing the PHANTOM, NORMAL, WIDE or 3 CH button.



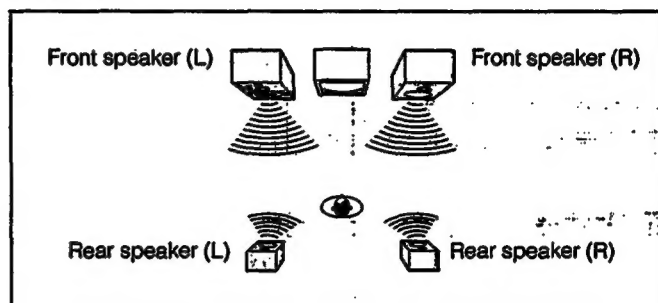
DOLBY PRO LOGIC MODE buttons

* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792, and 3,959,590. Canadian numbers 1,004,603 and 1,037,877.

"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

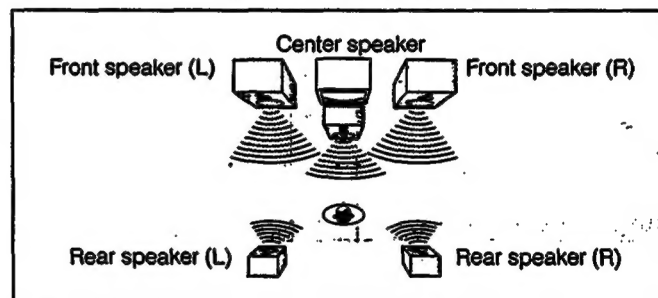
PHANTOM mode

Select this mode when you do not use center speaker. The sound of the center channel can be heard from the front speakers.



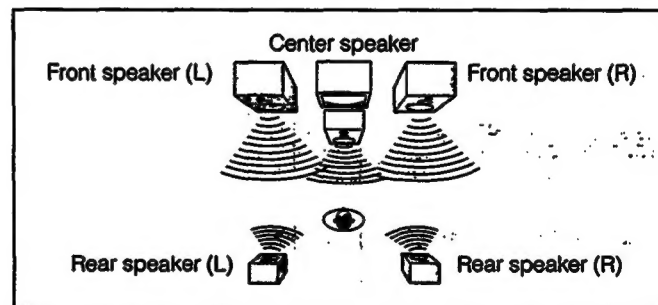
NORMAL mode

Select this mode if you use small center speaker. The bass sound of the center channel is output from the front speakers, as small speaker cannot produce enough bass.



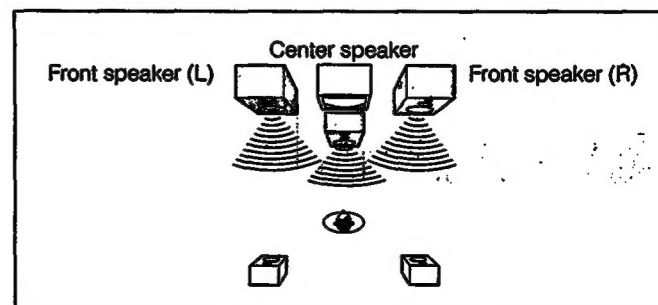
WIDE mode

Select this mode if you use a medium to big center speaker.



3CH mode

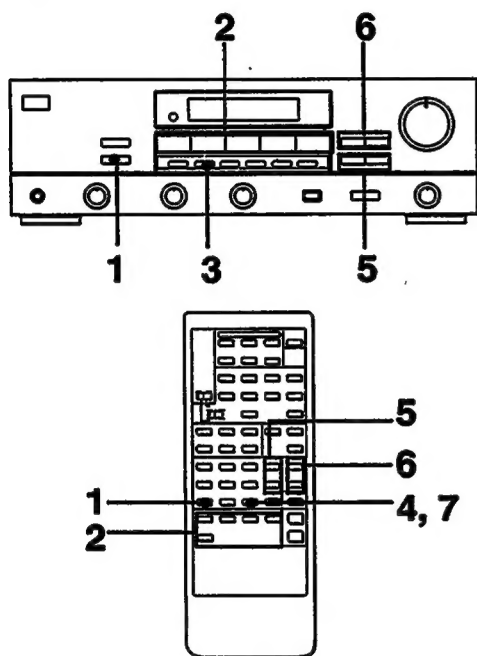
Select this mode when you do not use rear speakers.



Getting Ready to Enjoy Surround Sound

Adjusting the Speaker Volume

To adjust the surround sound to the maximum on playing any program sources, adjust the front, rear and center (if connected) speakers to the same volume level. The adjustment must be done with a test tone in the DOLBY PRO LOGIC MODE, but the level once adjusted can be used for all DOLBY PRO LOGIC MODEs. You can adjust the volume level from your listening position by using the remote commander.



- 1** Press the **SURROUND** button on the front panel or **SURROUND ON/OFF** button on the remote commander to set to the **SURROUND ON** mode.
- 2** Select a program source with the function selector and start playback.
- 3** Select the **NORMAL** mode with the **NORMAL** button on the front panel.
- 4** Press the **T. TONE** button on the remote commander.

- 5** Adjust the level of rear speakers with the **REAR LEVEL + or -** button on the front panel or the **REAR VOL + or -** button on the remote commander.

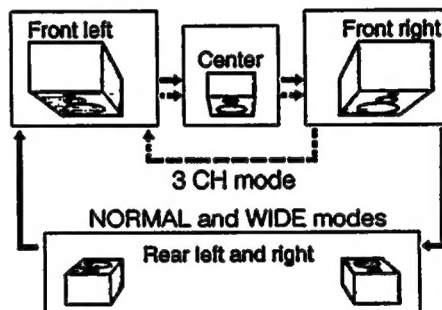
- 6** Adjust the level of center speaker with the **CENTER LEVEL + or -** button on the front panel or the **CENTER VOL + or -** button on the remote commander.

- 7** Press the **T.TONE** button on the remote commander to set to off.

Sequence of the test tone

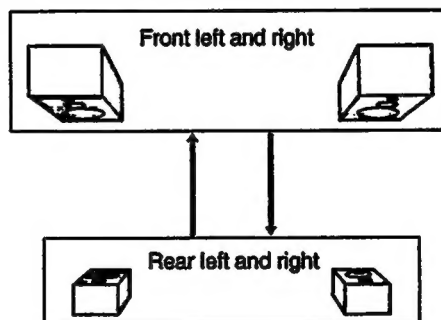
In a system with a center speaker:

The test tone will be output automatically from the front left, center, front right, and the rear speakers in succession.



In a system without a center speaker:

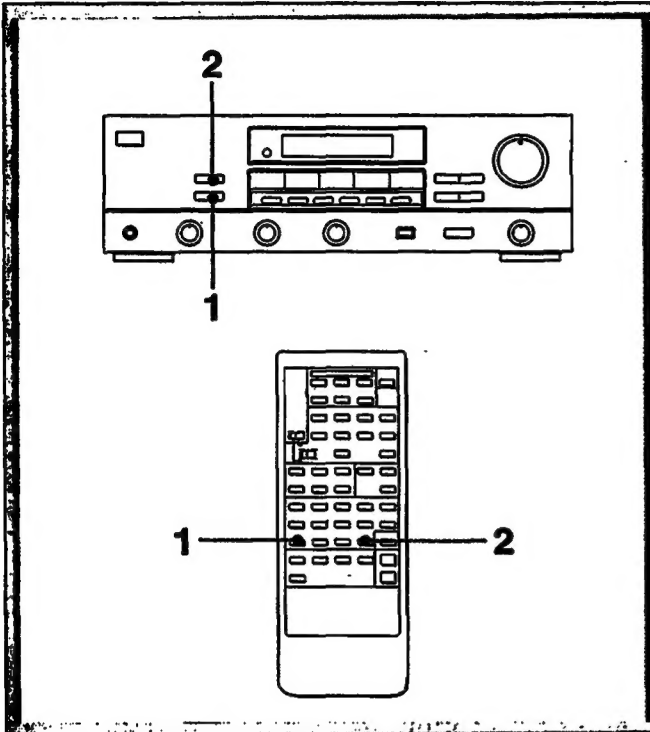
The test tone will be output automatically from the front speakers and rear speakers alternately.



Adjusting the Audio Controls

Adjusting the Delay Time of the Rear Speakers

The delay time is a time between the surround sound from the front and that from rear speakers. Select the delay time 15.0 ms, 20.0 ms or 30.0 ms.



1 Press the **SURROUND** button on the front panel or the **SURROUND ON/OFF** button on the remote commander to set to the **SURROUND** mode.

2 Select the delay time with the **DELAY TIME** button on the front panel or the **DELAY** button on the remote commander.

To turn off the surround effect

Press the **SURROUND** button on the front panel or the **SURROUND ON/OFF** button on the remote commander again.

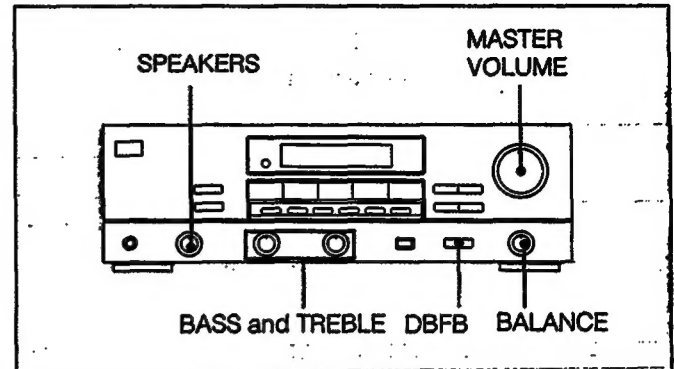
The normal sound without surround effect will resume.

Both level and delay time of the surround is memorized each time after adjusting. They will be restored when the surround mode is resumed.

Note

The delay time for the rear speakers can be adjusted even in the 3 CH mode.

You can enjoy superb sounds using the audio adjustment functions as shown below.



Adjusting Volume

To increase the sound level, turn the **MASTER VOLUME** control clockwise. To decrease it, turn the control counterclockwise.

Adjusting the Left and Right Sound Balance

To change relative strength of the right and left speaker outputs, adjust the **BALANCE** control.

Adjusting the Tone from the Front Speaker

To enhance **TREBLE** or **BASS** sound from the front speakers, turn the **TREBLE** or **BASS** control clockwise. To attenuate them, turn the **TREBLE** or **BASS** control counterclockwise.

Reinforcing the Bass Sound

To powerful bass sound, press the **DBFB** (Dynamic Bass Feed Back) button. The lower the volumes, the more the bass sound is emphasized.

Selecting the Speaker System

To drive speaker system A: Set the **SPEAKERS** selector to A.

To drive speaker system B: Set the **SPEAKERS** selector to B.

To drive both speaker systems A and B (series connection): Set the **SPEAKERS** selector to A + B.

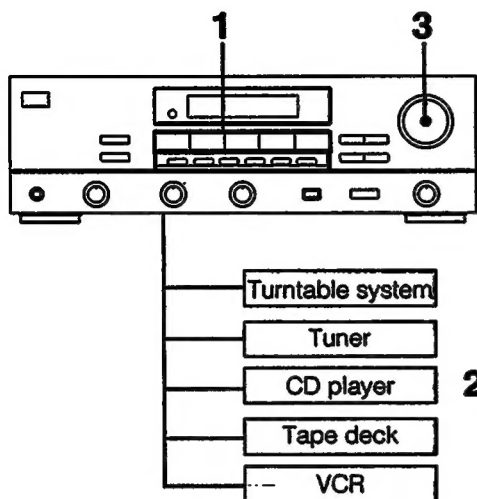
For headphone listening: Connect headphones to the **HEADPHONES** jack and set the **SPEAKERS** selector to OFF.

To turn off the rear and center speakers, set the **SURROUND** button to off.

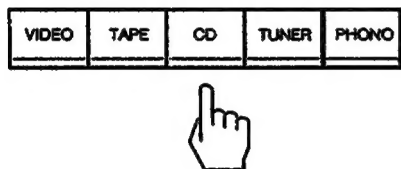
IMPORTANT

Speaker systems A and B are series connected. When only one speaker system is connected, no sound can be heard at the A + B position.

Listening to a Program Source



1 Select the program source to be played back.

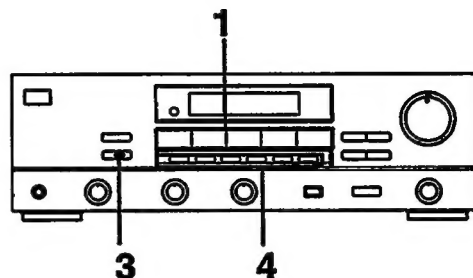


2 Start playback of the selected program.

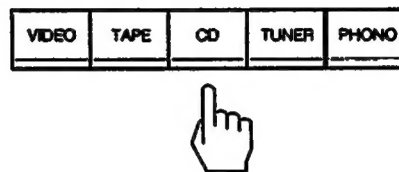
3 Adjust the volume.



Listening with the Surround Effect



1 Select the program source.

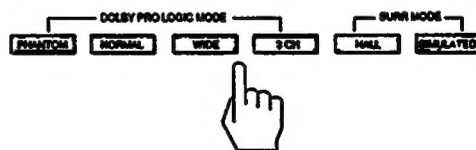


2 Start playback of the selected program.

3 Press the SURROUND button to set to on.



4 Select the surround mode with the DOLBY PRO LOGIC MODE buttons or the SURROUND MODE* buttons.



* You can select the surround modes with the SURROUND MODE buttons.

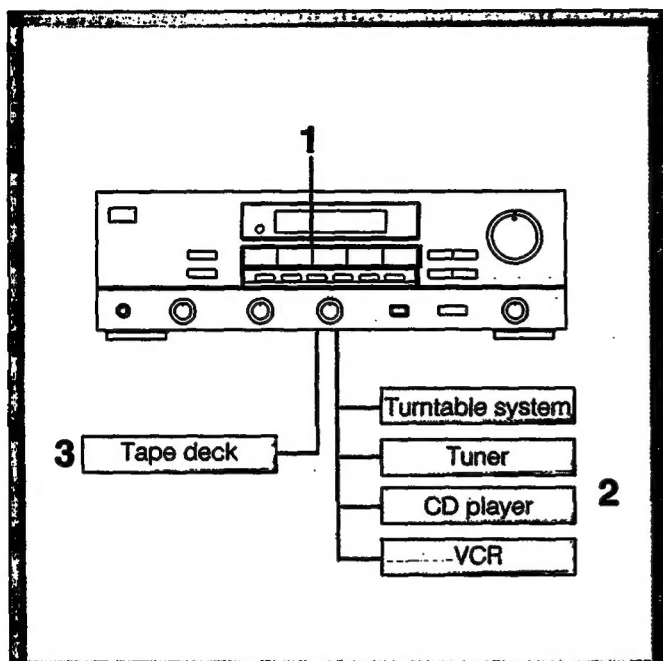
HALL (Hall surround): Provides reverberation effect that is produced in a concert hall.

SIMULATED (Simulated surround): Gives a simulated stereo effect to monaural sound.

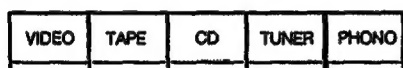
Note

No sound will be heard from the rear and center speakers, unless one of the SURROUND PRO LOGIC MODE or SURROUND MODE is selected with SURROUND button set to on.

Recording



1 Select the program source to be recorded other than TAPE.



2 Start playback of the selected program.

3 Set the tape deck in the recording mode.

Note

The MASTER VOLUME, TONE, BALANCE, SURROUND controls and the DBFB button have no effect on recording.

Specifications

AUDIO POWER SPECIFICATIONS POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40 - 20,000 Hz; rated 135 watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Power bandwidth (IHF)	30 Hz - 30 kHz (8 ohms)
Dynamic headroom	1.7 dB ('78 IHF)
Harmonic distortion	Less than 0.9% at rated output (Surround OFF)
Frequency response	PHONO: RIAA equalization curve CD, VIDEO, TUNER, TAPE: 10 Hz - 50 kHz ± 3 dB
Rear output	15 W + 15 W (at front off 8 ohms)
Center output	30 W (at front off 4 ohms)
Damping factor	27 (8 ohms, 1 kHz)

Input

Input jack	Jack type	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	Phono	3.0 mV	50 kilohms	71 dB 75 dB* (A, 3.0 mV)
CD, VIDEO, TUNER, TAPE	Phono	250 mV	50 kilohms	92 dB 83 dB* (A, 250 mV)

*'78 IHF

Output

TAPE (REC OUT)	Phono jacks	Voltage 150 mV Impedance 1 kilohm
SPEAKERS (Front, Rear)	—	Accepts speakers of 8 - 16 ohms
SPEAKERS (Center)	—	Accepts speakers of 4 - 16 ohms
HEADPHONES	Stereo phone jack	Accepts low and high impedance headphones.

Tone controls

BASS: ± 10 dB (100 Hz)
TREBLE: ± 8 dB (10 kHz)

General

Power requirements	120 V AC, 60 Hz
Power consumption	250 W
AC outlets	3 switched, 120 W/1 A max.
Dimensions	Approx. 430 x 145 x 360 mm (w/h/d) (17 x 5 ³ / ₄ x 14 ¹ / ₄ inches)
Weight	Approx. 9.9 kg (21 lb 14 oz)
Accessories supplied	Remote Commander RM-U521 (1) Sony batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

Troubleshooting

Before going through the check list below, first refer back to the connection and operating procedures.

Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Trouble	Remedy
No audio.	<ul style="list-style-type: none"> • Check the power cord connection. • Check the SPEAKERS selector setting. • Check the connections. • Check the setting of the function selector. • Check the speaker terminal connection and the speaker cord for a short.
No audio from one channel.	<ul style="list-style-type: none"> • Adjust the BALANCE control. • Check the speaker cord or connecting cord connection.
Lack of bass sound or obscure instrument position.	<ul style="list-style-type: none"> • Check the connection between the amplifier and speakers.
Severe hum or noise when using the turntable.	<ul style="list-style-type: none"> • Ground the turntable system. • Fully insert the plug of the connecting cord. • Disconnect the ground wire of the turntable from the terminal when using an MM cartridge with a ground piece.
Noise when TV is turned on.	<ul style="list-style-type: none"> • Move the TV away from the audio system.
Switching on DBFB does not affect the sound.	<ul style="list-style-type: none"> • The DBFB button reinforces only low frequencies.
The operation cannot be performed with the remote commander.	<ul style="list-style-type: none"> • Check that the batteries are loaded correctly. • Check if there is any obstacle between the remote commander and the amplifier. • Check if the batteries are exhausted.
No sound or sound at very low level is heard from rear speakers.	<ul style="list-style-type: none"> • Check if the SURROUND button is set to OFF. (No indicators are lit.) (See page 10.) • Check if the volume level of the rear speakers is set to minimum. • Check if the monaural program source is played back in Dolby surround mode. • Check if the 3CH mode is selected in the DOLBY PRO LOGIC MODE. (See page 7.)